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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/534,844

12/28/2005

John M. Alder

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09/19/2008

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EXAMINER

BELL, BRUCE F

ART UNIT

PAPER NUMBER

1795

MAIL DATE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/534,844	<b>Applicant(s)</b> ALDER, JOHN M.	
	<b>Examiner</b> Bruce F. Bell	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 18-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9 and 18 is/are allowed.
- 6) ☒ Claim(s) 10-16, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/4/05</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show “vessel 110” in Figure 1; and SR flip flop 606 in Figure 6 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “404” and “406” have been used to designate both “input

electrodes” and “inlet A and inlet B” as set forth on page 8, line 13 and 19 of the instant specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 10-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Ritter (4,623,203).

Ritter discloses a stepping commutator for supplying power to a plurality of electrode plates mounted on a rotating shaft. The commutator comprises a central annular plate which is fixed to the shaft. The plate has a ring of cylindrical stationary contacts mounted therein concentrically about the shaft, so that they rotate with the shaft. Means are provided for connecting the contacts with the electrode plates. A pair

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of annular second plates bracket the central plate. Said pair of second plates are free to rotate on the shaft. Each such second plate carries a ring of horizontally slidable cylindrical contacts arranged to correspond with the central contacts. The slidable contacts are connected with a power source. Means are provided for biasing the slidable contacts into or out of engagement with the central contacts, when appropriate. A microswitch assembly controls the assembly to actuate the biasing means to slide one set of movable contacts into engagement with the central contacts and then to slide the second set of movable contacts into such engagement while withdrawing the first set. See abstract. A control valve 65 is disclosed to control the admitting and exhausting of pressurized air to and from the space and is shown in Figure 14. This control valve is mounted on a drive shaft 17 and comprises a pair of abutting annular discs 102, 103 held together in face to face relation by a collar and spring assembly. One such disc 102 is provided with a central bearing 105 and is adapted to permit the drive shaft 17 to spin therewithin. The disc 102 is held stationary by a member secured to the base of clarifier 1. The stationary disc 102 is formed to provide a pair of air inlet ports 107, each of which is connected by a tube with the air supply line 28. The stationary disc 102 further forms a pair of air exhaust ports 109 which communicate with the atmosphere. The second disc 103 is affixed to the drive shaft 17 and rotates slowing therewith. This disc 103 forms 12 spaced ports 110 arranged in a circular pattern. Each of these ports 110 is connected by a tube with the space between one of the elastic sheets 56 and one of the electrode plate bodies 54. Each port 110 is encircled by an O-ring 113, seated in the disc face, to provide an air-tight seal against the adjacent face of the

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stationary disc 102. In operation, when the electrode plate 53 reaches the top of its travel, the port 110 connected with the plates diaphragm space comes into register with the first air inlet port 107 in the stationary disc 102. Pressurized air enters the space, inflates the elastic sheet 56 and disturbs the solid collected thereon. As the rotating unit 15 continues to turn the port 110 is moved out of register with the first air inlet port 107 and into register with the first air exhaust port 109. The supply of pressurized air to the diaphragm space is terminated and air still trapped in the space is exhausted. This procedure is then repeated as the aforesaid port 110 comes into register first with the second air inlet port 107 and then with the second pair exhaust port 109. See col. 12, line 58 – col. 13, line 37. The combination of a valve 14, in each feed line 13 and an adjustable period, pneumatic sequencing time is used to control the distribution of the feed. See col. 13, lines 45-48.

The prior art of Ritter anticipates the applicants instant invention as shown by way of the disclosure to Ritter above. The examiner considers a gas to be a fluid and even if applicant disagrees, the inlet ports and exhaust ports are still capable of conveying fluids since the apparatus is structurally the same. The two discs, one being stationary with both inlet and outlet ports and the rotating disc having spaced ports arranged in a circular pattern and having o-rings and grooves into which the o-rings fit, meet the construction of the dependent limitations. The two discs are in concentric arrangement and are adjacent one another and a signal is produced by way of the valving and contacts to indicate when air is imported into the inlet ports of the disc and

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when air is exhausted out of the disc. Therefore, the prior art of Ritter anticipates the applicants instant claims as presented.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kunimatsu et al (EP 0580072A1).

Kunimatsu et al discloses a gas diffusion electrode having a porous membrane 15, that is fixed to the surface of a gas diffusion layer 13 by way of a porous carbon paper 14 wherein the gas passage is formed between the porous carbon paper and the gas diffusion layer 13. A reaction layer 12 is bonded to the gas diffusion layer to support the catalyst metal. See figure 1, abstract and col. 5, lines 35-49.

The prior art of Kunimatsu et al anticipates the applicants instant invention as shown by way of the disclosure above with respect to the instant claims as presented. The porous backing layer is construed by the examiner to be that of the porous carbon paper which is known for its use as a porous backing layer in the art for use in producing gas diffusion electrodes.

***Claim Objections***

7. Claim 18 is objected to because of the following informalities: \*\*\*

Claim 18, line 3; Change “assign” to “passing”.

Appropriate correction is required.

***Allowable Subject Matter***

8. Claims 1-9 and 18 are allowable over the prior art of record.
9. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach and/or suggest an electrolytic system having a commutator with a pair of input electrodes and a set of working electrodes both of which are arranged to be immersed in an electrolyte and wherein a controller is used to control the movement of the commutator and a waveform of an applied AC voltage that is applied to the pair of input electrodes and further to convert the AC signal to a DC signal through the circuitry. Even though commutators are well known to be used in motors, etc., the structure as recited by applicant using such commutator with this particular circuitry, utilizing both input electrodes and working electrodes along with a controller to control the commutator movement and waveform of applied AC voltage, is not known and/or suggested. Further the method as recited for plating, utilizing such commutator and circuitry arrangement, is also not taught and/or suggested.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce F. Bell whose telephone number is 571-272-1296. The examiner can normally be reached on Monday-Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BFB  
September 17, 2008

/Bruce F. Bell/  
Primary Examiner, Art Unit 1795